Space Weather Forecast

Issued on Friday, 10 June 2022 at 01:20 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

Space Weather Forecast Headline: Increasing chance of Moderate class flares.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity has been Low, with several Common-class flares. Two of these flares originated from AR3029, a region now in the southwest quadrant, and the only numbered region on the visible disc. The remaining flares were thought to have emanated from a region which rotated onto the visible disc and is now in the northeast quadrant. However, just behind this yet to be numbered region in the northeast quadrant, which appears small and magnetically simple, another larger region appears to be following and currently emerging onto the northeast limb, and produced the remaining Common class flares. A further new region, a very faint, weak and simple region, has also emerged within the southeast quadrant. No Earth-directed CMEs were observed in the last 24 hours.

Solar Wind / Geomagnetic Activity: The solar wind speeds have been ambient, currently averaging around 300km/s. Total magnetic field strength was weak, with the north-south component also varying weakly. Geomagnetic activity was Quiet.

Energetic Particles / Solar Radiation: No solar radiation storms were observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is expected to start mainly Low, but with an increasing risk of Moderate activity due a new region which is currently emerging onto the northeast limb, plus other regions which may rotate onto the visible disc through the forecast period.

Solar Wind / Geomagnetic Activity: No Earth-directed CMEs are currently forecast. A coronal hole may connect with the Earth today, but as the feature is very small and weak on only slightly elevated winds are expected. Geomagnetic activity is forecast to be mainly Quiet with a chance of isolated Unsettled intervals today and overnight.

Energetic Particles / Solar Radiation: No solar radiation storms are expected.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	1	1	1	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	5	10	15	15
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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